



HYB-005US7.ST25

SEQUENCE LISTING

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Yu, Dong  
Agrawal, Sudhir

<120> Modulation of Immunostimulatory Activity of Immunostimulatory  
Oligonucleotide Analogs By Positional Chemical Changes

<130> HYB-005US7 (1006.006)

<140> US 10/694,207  
<141> 2003-10-27

<150> US 09/965,116  
<151> 2001-09-26

<150> US 09/712,898  
<151> 2000-11-15

<150> US 60/235,452  
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t at position 16 = Methyl-phosphonate

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tctcccagcg tgcgcat 18

<210> 78  
<211> 32  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 16  
<223> 3'-5' linkage

<400> 78  
tcccagcgtg cgccattccc agcgtgcgcc at 32

<210> 79  
<211> 32  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 16  
<223> 5'-5' linkage

<400> 79  
taccgctgc gacccttccc agcgtgcgcc at 32

<210> 80  
<211> 32  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 16  
<223> 3'-3' linkage

<400> 80  
tcccagcgtg cgccattacc gcgtgcgacc ct 32

<210> 81  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 5  
<223> c = beta-L-Deoxynucleoside

<400> 81  
ctatctgacg ttctctgt 18

<210> 82  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 14  
<223> t = beta-L-Deoxynucleoside

<400> 82  
ctatctgacg ttctctgt 18

<210> 83  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 4, 5  
<223> t at position 4 = beta-L-Deoxynucleoside  
c at position 5 = beta-L-Deoxynucleoside

<400> 83  
ctatctgacg ttctctgt 18

<210> 84  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 14, 15  
<223> t at position 14 = beta-L-Deoxynucleoside  
c at position 15 = beta-L-Deoxynucleoside

<400> 84  
ctatctgacg ttctctgt 18

<210> 85  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 9, 10  
<223> c at position 9 = beta-L-Deoxynucleoside  
g at position 10 = beta-L-Deoxynucleoside

<400> 85  
ctatctgacg ttctctgt 18

<210> 86  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 7  
<223> g = beta-L-Deoxynucleoside

<400> 86  
ctatctgacg ttctctgt 18

<210> 87  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 12  
<223> t = beta-L-Deoxynucleoside

<400> 87  
ctatctgacg ttctctgt 18

<210> 88  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> (1)...(18)  
<223> all nucleotides = beta-L-deoxynucleoside

<400> 88  
ctatctgacg ttctctgt 18

<210> 89  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate  
  
<221> modified\_base  
<222> 5  
<223> c = 2'-O-Propargyl-ribonucleoside  
  
<400> 89  
ctatctgacg ttctctgt 18  
  
<210> 90  
<211> 18  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate  
  
<221> modified\_base  
<222> 15  
<223> c = 2'-O'Propargyl-ribonucleoside  
  
<400> 90  
ctatctgacg ttctctgt 18  
  
<210> 91  
<211> 18  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate  
  
<221> modified\_base  
<222> 4, 5  
<223> a at position 4 = 1',2'-Dideoxyribose  
c at position 5 = 1',2'-Dideoxyribose  
  
<400> 91  
cctactagcg ttctcatc 18  
  
<210> 92  
<211> 18  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> modified linkage of oligodeoxynucleotide phosphorothioate  
  
<221> modified\_base  
<222> 4, 5  
<223> a at position 4 = C3-Linker  
c at position 5 = C3-Linker  
  
<400> 92  
cctactagcg ttctcatc 18



<210> 93  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base  
 <222> 4, 5  
 <223> a at position 4 = 3'-methoxyribonucleoside  
       c at position 5 = 3'-methoxyribonucleoside

<400> 93  
 cctactagcg ttctcatc

18

<210> 94  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base  
 <222> 4, 5, 12  
 <223> a at position 4 = 1',2'-Dideoxyribose  
       c at position 5 = 1',2'-Dideoxyribose  
       t at position 12 = 2'-methoxyribonucleoside

<400> 94  
 cctactagcg ttctcatc

18

<210> 95  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> modified linkage of oligodeoxynucleotide phosphorothioate

<400> 95  
 cctactagcg ttctcatc

18

<210> 96  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
 <222> 10  
 <223> g = 7-deazaguanine

<400> 96  
 ctatctgacg ttctctgt

18

<210> 97  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 9  
<223> g = 7-deazaguanine

<400> 97  
ctatctgagc ttctctgt

18

<210> 98  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified oligodeoxynucleotide phosphorothioate

<400> 98  
tctcccagcg tgcgcat

18

<210> 99  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 10,14  
<223> g at positions 10 and 14 = 7-deazaguanine

<400> 99  
tctcccagcg tgcgcat

18

<210> 100  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 5  
<223> c = C3-Linker

<221> modified\_base  
<222> 10  
<223> g = 7-deazaguanine

<400> 100  
ctatctgacg ttctctgt 18

<210> 101  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 10  
<223> g = 6-thioguanine

<400> 101  
ctatctgacg ttctctgt 18

<210> 102  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 9  
<223> g = 6-thioguanine

<400> 102  
ctatctgagc ttctctgt 18

<210> 103  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 9  
<223> c = 4-thiouridine

<400> 103  
ctatctgacg ttctctgt 18

<210> 104  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 5

<223> c = 1,2-Dideoxyribose

<221> modified\_base

<222> 9

<223> c = 4-thiouridine

<400> 104

ctatctgacg ttctctgt

18

<210> 105

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base

<222> 9

<223> c = Ara-C

<400> 105

ctatctgacg ttctctgt

18

<210> 106

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base

<222> 10

<223> c = Ara-C

<400> 106

ctactctgac cttctctgt

19

<210> 107

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base

<222> 9

<223> c = 1',2'-Dideoxyribose

<400> 107

ctatctgacg ttctctgt

18

<210> 108

<211> 18

<212> DNA

<213> Artificial Sequence

<220>  
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 8  
<223> a = 1',2'-Dideoxyribose

<400> 108  
ctatctgacg ttctctgt 18

<210> 109  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 6  
<223> t = 1',2'-Dideoxyribose

<400> 109  
ctatctgacg ttctctgt 18

<210> 110  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 4  
<223> t = 1',2'-Dideoxyribose

<400> 110  
ctatctgacg ttctctgt 18

<210> 111  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
<222> 11  
<223> t = 1',2'-Dideoxyribose

<400> 111  
ctatctgacg ttctctgt 18

<210> 112  
<211> 18  
<212> DNA

<213> Artificial Sequence

<220>

<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base

<222> 13

<223> c = 1',2'-Dideoxyribose

<400> 112

ctatctgacg ttctctgt

18